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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,632	12/19/2000	Brian Scott Cook	135774	5579

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EXAMINER

DENNISON, JERRY B

ART UNIT PAPER NUMBER

2143

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,632

Applicant(s)

COOK ET AL

Examiner

J. Bret Dennison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This Action is in response to Amendment (RCE) of Application Number 09/741632 received on 28 February 2005.
2. Claims 16-24 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 16-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 16-20 are directed to "a method of transparently transporting frame information across a network" and claims 21-24 are directed to "a method for mapping bytes", which, in both instances, appears to be nothing more than a signal not tangibly embodied in a manner so as to be executable and is thus non-statutory for failing to be in one of the categories of invention.

Claim Interpretation

4. Before a detailed mapping, a brief discussion should be made to clarify Examiner's interpretation of the claimed invention.

Independent claim 16 includes receiving a first STS-3 telecommunications signal carrying three STS-1 telecommunications signals, placing the payload portion of the

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STS-3 frame structure into payload locations of a second frame structure for a second STS-3 telecommunications signal, and placing the header portion of the first frame structure into the payload locations of the second frame structure. In other words, the functionality of claim 16 is simply encapsulating an STS-3 signal into another STS-3 signal. The idea of an STS-3 signal being made up from three STS-1 signals is well known in the prior art, commonly called "grooming", where STS-1 signals are multiplexed to produce higher bit rates such as STS-3 signals.

Independent claim 21 includes mapping bytes from a first frame with a first frame structure from a first network into a second frame with the same first frame structure in a second network, using the same functionality as described above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurren et al. (U.S. Patent Number 6,788,681) in view of Raza et al. (U.S. Patent Number 6,870,813).

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5. Regarding claims 16 and 21, Hurren discloses a method of transparently transporting frame information across a network, comprising:

placing the payload portion of the first frame structure into payload locations of a second frame structure for a second STS-3 telecommunications signal, the path overhead locations of the payload portion of the first frame structure being placed into path overhead locations of the second frame structure;

placing the header portion of the first frame structure into payload locations of the second frame structure, the header portion of the first frame structure being placed into fixed stuff bytes of the second frame structure (Hurren, see Abstract, col. 1, lines 45-51, col. 3, lines 1-5, 10-25, 39-45, 55-67, col. 13, lines 30-45 Hurren disclosed a Transparent LAN Service using a connection oriented approach including Synchronous Optical Networks, providing transparent communication between a first and second Local Area Network by encapsulating data frames with routing information and transmitting the encapsulated data frames).

However, Hurren does not explicitly state receiving a first STS-3 telecommunications signal carrying three STS-1 telecommunications signals, the three STS-1 telecommunications signals each including header and payload information byte interleaved into a first frame structure for the first STS-3 telecommunications signal, the first frame structure having a header portion with byte interleaved header information of the three STS-1 telecommunications signals, the first frame structure having a payload portion with byte interleaved header information of the three STS-1 telecommunications signals, the payload portion of the first frame structure including fixed stuff byte

locations, the payload portion of the first frame structure including path overhead locations.

In an analogous art of Synchronous Optical Networks, Raza disclosed that SONET allows for the direct multiplexing of current network services into the synchronous payload of Synchronous Transport Signals (STS), which provide an electrical interface that is used as a multiplexing mechanism within SONET Network Elements. Raza also disclosed that in SONET multiplexing format, the basic signal is STS-1, which are then multiplexed to produce higher bit rates, such as STS-3. This multiplexing of STS signals to produce higher bit rate signals is commonly known as grooming (Raza, col. 1, line 50 through col. 2, line 5). It is obvious that multiplexing of the STS-1 frames is performed by interleaving the bytes of the three STS-1 frames to form the STS-3 frame.

Therefore it would have been obvious to one in the ordinary skill in the art at the time the invention was made to incorporate the multiplexing of STS-1 signals in order to produce higher bit rate STS-3 signals to increase the signal transmission rate (Raza, col. 1, line 50 through col. 2, line 5) across the network.

Claim 21 includes the same limitations as claim 16 across networks and is therefore rejected as being substantially similar to claim 16.

6. Regarding claim 17, Hurren and Raza disclosed the limitations, substantially as claimed, as described in claim 16, including wherein the path overhead locations of the second frame structure includes path overhead for the second STS-3

telecommunications signal, path overhead for the first STS-3 telecommunications signal, and overhead bytes from the header portion of the first frame structure. (Hurren, col. 13, lines 30-60).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurren et al. (U.S. Patent Number 6,788,681) in view of Raza et al. (U.S. Patent Number 6,870,813) as applied to claim 16 above, and further in view of Upp et al. (U.S. Patent Number 4,967,405) hereinafter referred to by Upp.

7. Regarding claim 18, Hurren and Raza teach the limitations, substantially as claimed, as described in claim 16, including wherein a consistent frame format is used by modifying overhead bytes. However, Hurren and Raza do not explicitly state discarding overhead bytes of the header portion of the first frame structure that are redundant between the three STS-1 telecommunications signals and that are identical with overhead bytes for the second STS-3 telecommunications signal. In an analogous art of processing signals in SONET format, Upp discloses zeroing out the overhead bytes (Upp, col. 3, lines 60-67).

Therefore it would have been obvious to one in the ordinary skill in the art at the time of the invention to combine Hurren and Raza with Upp to provide a system that transports a variety of native frame types including SONET format for the benefit of providing cross connection of high-rate digital carrier signals with other high-rate digital signal carriers (Upp, col. 2, lines 19-25).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurren et al. (U.S. Patent Number 6,788,681) in view of Raza et al. (U.S. Patent Number 6,870,813) as applied to claim 16 above, and further in view of Fedders et al. (U.S. Patent Number 6,603,776).

8. Regarding claim 19, Hurren and Raza disclosed the limitations, substantially as claimed, as described in claim 16. However, Hurren and Raza do not explicitly state wherein the fixed stuff byte locations are in columns 30 and 59 of the second frame structure. In an analogous art, Fedders discloses a system for efficient broadband data payload conversion wherein the stuff bytes are written into columns 30 and 59 (Fedders, col. 5, lines 10-16). Therefore it would have been obvious to one in the ordinary skill in the art at the time of the invention to combine Hurren and Raza with Fedders to efficiently convert broadband data between two sets of data formats (Fedders, col. 1, lines 14-15).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurren et al. (U.S. Patent Number 6,788,681) in view of Raza et al. (U.S. Patent Number 6,870,813) as applied to claim 16 above, and further in view of Jha (U.S. Patent Number 6,847,644).

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9. Regarding claim 20, Hurren and Raza disclosed the limitations, substantially as claimed, as described in claim 16. However, Hurren and Raza do not explicitly state concatenating path overhead for the three STS-1 Telecommunications signals into a single path overhead representing all three STS-1 telecommunications signals. In an analogous art, Jha disclosed a concatenated line for STS-1 signals (Jha, col. 10, lines 20-40). Therefore it would have been obvious for one in the ordinary skill in the art at the time of the invention to incorporate the teachings of Jha into Hurren and Raza to provide an increase in the data traffic handling capabilities of SONET/SDH networks (Jha, col. 8, lines 50-67).

10. Regarding claim 22, Hurren and Raza disclosed the limitations, substantially as claimed, as described in claim 21. Hurren and Raza do not explicitly state discarding overhead bytes in the first frame that are redundant or unused. In an analogous art, Stewart disclosed discarding path overhead bytes reducing the occurrences of redundant bits (Stewart, col. 6, lines 60-67). Therefore it would have been obvious to incorporate the teachings of Stewart into the teachings of Hurren and Raza in order to provide a more efficient transport container by reducing bandwidth (Stewart, see Abstract).

11. Regarding claims 23 and 24, Hurren and Raza disclosed the limitations, substantially as claimed, as described in claim 22, including wherein the first frame structure is an STS-3 concatenated frame structure (Raza, col. 2, lines 1-10).

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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J. B. D.
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